List of Contents

NUMBER 1

R. Ballarini	1	A rigid line inclusion at a bimaterial interface
Ch. Zhang	7	Dynamic stress intensity factors of an inclined surface-breaking crack
S. Mall, J. A. Perez and T. Nicholas	15	Influence of loading history on fatigue threshold behavior in a titanium alloy
D. J. Smith	27	Crack growth in brittle materials exhibiting primary creep
P. Dong and J. Pan	43	Plane-stress mixed-mode near-tip fields in elastic perfectly plastic solids
E. Z. Lajtai, B. J. Carter and M. L. Ayari	59	Criteria for brittle fracture in compression
H. Alawi	75	Designing reliably for fatigue crack growth under random loading
N. Hasebe, T. Nakamura and J. Iida	87	Notch mechanics for plane and thin plate bending problems
D. J. Unger	101	A modified Stefan problem related to transport-controlled stress corrosion cracking
D. K. M. Shum and Yonggang Y. Huang	107	Fundamental solutions for microcracking induced by residual stress
Cao Junnan	119	The elastic–plastic parameters of the *C*-shaped specimen
Chien-Ching Ma	127	A dynamic crack model with viscous resistance to crack opening: antiplane shear mode
S. Itou	145	An experiment on the behaviour around the tips of an interface crack
R. Wong, R. Herrera, Z. Zhou and J. D. Landes	153	Development of *J–R* curves from obsolete data using normalization techniques
R. E. Rai, P. Sundaram, R. K. Pandey, A. N. Kumar, S. K. Banerjee and S. K. Ghosh	163	Crack initiation and growth resistance in pressure vessel materials
T. Nishimura, T. Uchimoto and K. Hiraoka	175	Stress intensity factor for a crack passing through a thickness step

J. Llorca and V. Sánchez Gálvez — 185 — Modelling plasticity-induced fatigue crack closure

M. Comninou — 197 — An overview of interface cracks

J. C. Lee — 209 — Analysis of a fiber bridged crack near a free surface in ceramic matrix composites

L. Olaosebikan — 221 — On the variation of stress along the front of cracks and surface flaws

Technical Notes

D. W. Hammond and S. A. Meguid — 237 — A novel stroboscopy system to facilitate the continuous monitoring of fatigue cracks

D. Radaj — 245 — Local fatigue strength characteristic values for spot welded joints

I — Software Survey Section

NUMBER 2

S. Yang and Y. J. Chao — 251 — The singular field at the tip of a wedge-like rigid inclusion in a hardening material under longitudinal shear

E. Smith — 259 — Crack growth behaviour of non-phase-transforming ceramics

C. Makabe — 263 — A consideration on stable growth of a ductile crack in a center cracked plate of 70/30 brass

P. Will, B. Michel and M. Schaper — 275 — Justification of nonlinear J-resistance curves

Zhao Yishu — 283 — Elliptic rule criterion for mixed mode crack propagation

R. J. Hand and J. E. Field — 293 — Liquid impact on toughened glasses

C. J. Jih and C. T. Sun — 313 — Evaluation of a finite element based crack-closure method for calculating static and dynamic strain energy release rates

W. O. Soboyejo, J. F. Knott, M. J. Walsh and K. R. Cropper — 323 — Fatigue crack propagation of coplanar semi-elliptical cracks in pure bending

M. Ben-Amoz — 341 — A cumulative damage theory for fatigue life prediction

J. Sung — 349 — On the plane strain and crack stability in chevron-notched specimen for K_{Ic} and work-of-fracture determination

S. A. Meguid — 361 — Three-dimensional finite element analysis of circumferentially-cracked notched and un-notched cylindrical components

D. W. Hammond and S. A. Meguid	373	Crack propagation in the presence of shot-peening residual stresses
R. Arone	389	Influence of statistical dispersion of defect orientations on limiting fracture surfaces for brittle bodies
J. Schijve	405	Crack stoppers and ARALL laminates
C. S. Shin	423	The stress intensity of corner cracks emanating from holes
M. H. Aliabadi, D. J. Cartwright and W. Doney	437	Bueckner weight functions for cracks near a half-plane
		Technical Notes
Hao Tian-Hu	447	The problem of cracks on the interfaces of inhomogeneity and matrices
Hao Tian-Hu	453	An exact solution of a crack on a bimaterial curve interface
T.-H. Hao and Y.-C. Wu	457	An asymptotic finite-deformation approach to the stress singularity at the tip of a crack
	I	Software Survey Section

NUMBER 3

R. J. Sanford and J. R. Berger	461	The numerical solution of opening mode finite body fracture problems using generalized Westergaard functions
A. N. Palazotto and J. G. Mercer	473	Crack considerations in a notched compact tension specimen
A. K. Wong and G. C. Kirby III	493	A hybrid numerical/experimental technique for determining the heat dissipated during low cycle fatigue
G. C. Salivar and F. K. Haake	505	A comparison of test methods for the determination of fatigue crack growth rate threshold in titanium at elevated temperature
P. Johnson, X. P. Zhang and G. Pluvinage	519	Crack growth rate in impact fatigue and in programmed variable amplitude loading fatigue
T. C. Wang	527	Elastic–plastic asymptotic fields for cracks on bimaterial interfaces
Cheng Shumin, Wu Shaofu and Zhang Xing	539	Analysis of stress intensity factors for cracked plates with nonuniform thicknesses by the advanced stiffness derivative method
T. J. Lu and C. L. Chow	551	A modified Dugdale model for crack tip plasticity and its related problems

T. S. Srivatsan and T. S. Sudarshan	569	Fracture of precipitation strengthened aluminum alloys—role of environment
G. T. Sha and Chien-Tung Yang	591	Use of analytically decoupled near-tip displacement solutions for calculating the decoupled weight functions of mixed fracture modes
S. C. Mouskos and H. G. Georgiadis	611	Cruciform crack propagation in plane strain
Zhang Keshi and Zheng Changqing	621	Microvoid multistage nucleating model and its application in analyses of micro damage and fracture
Zhou Yong	631	The normal displacement of a crack surface with arbitrary shape
D. V. Swenson and N. Kaushik	641	Finite element analysis of edge cracking in plates
Shaofu Wu and A. Chudnovsky	653	The effective elastic properties of a linear elastic solid with microcracks
Chai Guozhong, Hong Qichao and Li Zhezhen	661	Fatigue behaviour of nozzle corner cracks
Chai Guozhong	667	A mixed mode fracture J integral criterion for elastic perfectly plastic materials in small scale yielding
Sun Jun, Deng Zengjie and Tu Mingjing	675	Plane stress elastic–plastic fracture criteria and constraint intensity in crack tip regions
		Technical Notes
N. I. Ioakimidis	681	Interaction of a moment with a crack tip for the determination of weight functions
N. I. Ioakimidis	685	Elementary real path-dependent integrals for the accurate evaluation of stress intensity factors at a class of straight crack tips
F. H. Al-Sugair and A. S. Kiremidjian	691	Low-cycle fatigue data—statistical analysis and simulation
J. Joch	697	Integral parameters for thermal fracture J', J_θ and J^*
M. Newby	701	Likelihood methods and the analysis of fatigue crack growth
	I	Software Survey Section

NUMBER 4

I. S. Raju and K. N. Shivakumar	707	An equivalent domain integral method in the two-dimensional analysis of mixed mode crack problems
Zhao Jianhua and Ji Fangsheng	727	Stress analysis of unidirectional composites with a surface notch by variational principle

P. V. Anil Kumar, B. Nageswara Rao and **A. R. Acharya**	735	Statistical scatter in fracture toughness of M250 grade maraging steel predicted from Charpy V-notch impact test
P. S. Theocaris	739	The elastic field around the crack tip measured by scanning electromicroscopy
L. S. Vesier and **S. D. Antolovich**	753	Fatigue crack propagation in TI-6242 as a function of temperature and waveform
X. S. Zhang (Zhang Xiaosi) and **Hong-Yao Wu**	777	A central crack of mode III at the boundary cross of four different media in a finite disc
Kang Yong Lee and **Youn Ho Cho**	787	Boundary element analysis of thermal stress intensity factors for cusp cracks
Kang Yong Lee and **Kwan-Bo Sim**	799	Thermal shock stress intensity factor by Bueckner's weight function method
E. Si	805	Stress intensity factors for edge cracks in round bars
E. Si	813	Stress intensity factors for surface cracks emanating from the circumferential notch root in notched round bars
R. S. Dhaliwal and **H. S. Saxena**	817	A Griffith crack at the interface of two bonded dissimilar orthotropic elastic half-planes
Wang Tiejun and **Lou Zhiwen**	825	A continuum damage model for weld heat affected zone under low cycle fatigue loading
Th. Macke, E. Martin, J. J. Balette and **J. M. Quenisset**	831	Compliance calibration during instrumented Charpy impact testing
D. Vasilopoulos	839	An algorithm for the eigenvalues of a fixed–fixed corner
Wei Hua Tai	853	Plastic damage and ductile fracture in mild steels
S. Y. Zhang, L. W. Tsai and **J. Q. Liu**	881	Strain energy density ratio criterion for fracture of composite materials
H. S. Saxena and **R. S. Dhaliwal**	891	A penny-shaped crack at the interface of two bonded dissimilar transversely isotropic elastic half-spaces
C. Ouyang, B. Mobasher and **S. P. Shah**	901	An *R*-curve approach for fracture of quasi-brittle materials
	I	Software Survey Section

NUMBER 5

R. S. Alwar and **S. Thiagarajan**	915	Influence of crack closure for geometrically nonlinear plates bending problem

Cheng Yi-Heng and Hans-Georg Hahn	921	Investigation of the elastic interaction between a crack and a fiber—some new findings
D. Radaj, Zhaoyun Zheng and W. Möhrmann	933	Local stress parameters at the weld spot of various specimens
M. Doblare, F. Espiga, L. Gracia and M. Alcantud	953	Study of crack propagation in orthotropic materials by using the boundary element method
N. Yazdani and P. Albrecht	969	Probabilistic fracture mechanics application to highway bridges
A. Ohta, T. Mawari and N. Suzuki	987	Evaluation of effect of plae thickness on fatigue strength of butt welded joints by a test maintaining maximum stress at yield strength
F. Kozin and J. L. Bogdanoff	995	Cumulative damage model for mean fatigue crack growth based on the kinetic theory of thermally activated fracture
E. Yamaguchi and Wai-Fah Chen	1011	Post-failure behavior of concrete materials in compression
B. Strnadel, E. Mazancová and K. Mazanec	1025	Model of ductile fracture initiation in spheroidized steel
V. G. DeGiorgi and P. Matic	1039	A computational investigation of local material strength and toughness on crack growth
V. R. Ranganath, R. K. Pandey and A. N. Kumar	1059	A comparative study of various approaches for CTOD toughness evaluation
R. K. Kumar, R. Narasimhan and O. Prabhakar	1071	Finite element analysis of dynamic crack growth under plane stress in a viscoplastic material
Fan Tian-You	1085	The Dugdale model for semi-infinite crack in a strip
Xing Xiu-San	1089	Non-equilibrium statistical theory of ceramics fracture
Xing Xiu-San	1099	Microscopic statistical theory of damage fracture
J. N. Yang and S. D. Manning	1105	Stochastic crack growth analysis methodologies for metallic structures
A. A. Aaghaakouchak, S. Dharmavasan and G. Glinka	1125	Stress intensity factors for cracks in structures under different boundary conditions
		Technical Note
Z. D. Jiang, J. Petit and G. Bezine	1139	Fatigue propagation of two parallel cracks
	1145	Erratum
	I	Software Survey Section

NUMBER 6

M. E. M. El-Sayed and **E. H. Lund**	1149	Structural optimization with fatigue life constraints
L. Yang and **L. Z. Shuang**	1157	The preliminary analysis of reliability for a composite structure with damage
G. S. Wang and **A. F. Blom**	1165	The stress intensity factors for pressed cracks in arbitrary shapes
E. Jinen	1183	The fracture energy and acoustic emission of a short carbon fiber reinforced nylon 66 composite
Wang Zhichao, Zhang Lisu and **Liu Chun-Tu**	1195	A new formulated method of a quasi-compatible finite element and its application in fracture mechanics
Ö. G. Bilir and **M. Harun**	1203	Effect of stress ratio on the rate of growth of fatigue cracks in 1100 Al-alloy
Y. A. Bahei-El-Din and **H. Nigam**	1207	Fracture of fibrous metal matrix composites—III. Effect of imperfection geometry and heat treatment
Dan Zhao and **Jia-Yong Wang**	1233	A new method to calculate K_I for semi-elliptical surface cracks in finite plates
D. K. Mahanty and **S. K. Maiti**	1237	Experimental and finite element studies on mode I and mixed mode (I and II) stable crack growth—I. Experimental
S. K. Maiti and **D. K. Mahanty**	1251	Experimental and finite element studies on mode I and mixed mode (I and II) stable crack growth—II. Finite element analysis
		Technical Note
J. H. Underwood and **M. D. Witherell**	1277	Load-line displacements for three-point-bend J tests using bottom surface displacements
	I	Software Survey Section
	i	Index to Vol. 37